

(19) World Intellectual Property
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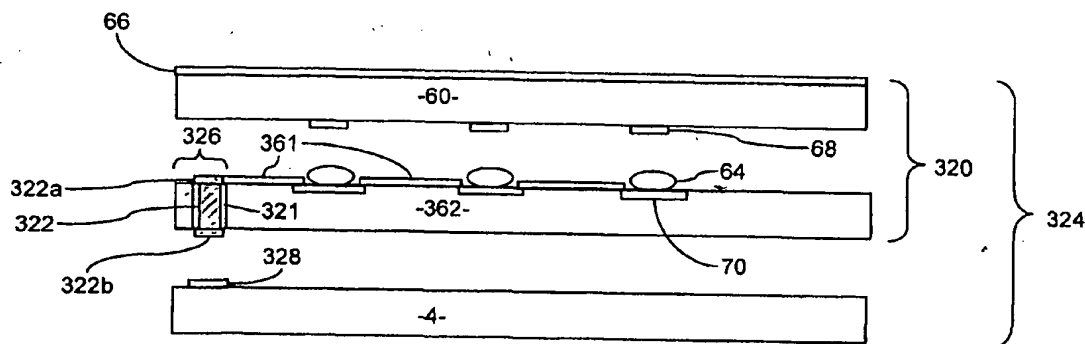
(43) International Publication Date
6 May 2004 (06.05.2004)

PCT

(10) International Publication Number
WO 2004/038810 A2

- (51) International Patent Classification⁷: **H01L 31/00**, **H04N 3/00**
- (21) International Application Number:
PCT/GB2003/004635
- (22) International Filing Date: 27 October 2003 (27.10.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
0224903.5 25 October 2002 (25.10.2002) GB
0224902.7 25 October 2002 (25.10.2002) GB
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- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:
— without international search report and to be republished upon receipt of that report
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: CIRCUIT SUBSTRATE AND METHOD



(57) **Abstract:** Embodiments of the invention are concerned with semiconductor circuit substrates for use in a radiation detection device, said radiation detection device comprising a detector substrate having a plurality of detector cells arranged to generate charge in response to incident radiation, each of said detector cells including at least one detector cell contact for coupling charge from said detector cell to said semiconductor circuit substrate. More particularly, in embodiments of the invention the semiconductor circuit substrate comprises: a plurality of cell circuit contacts, each of which is configured to receive charge from a corresponding detector cell contact, cell circuitry associated with said plurality of cell circuit contacts; one or more conductive pathways arranged to carry at least one of control, readout and power supply signals to and/or from said cell circuitry; and one or more signal pathways extending through said semiconductor circuit substrate, said one or more signal pathways being electrically coupled to said conductive pathways so as to provide an external signal interface for said cell circuitry. Embodiments in accordance with the present invention thus provide a means of routing signals through the semiconductor circuit substrate to an electrical contact on a surface of the semiconductor circuit substrate. The electrical contact on the surface of the circuit substrate can then be directly coupled to a corresponding electrical contact on a mount.